Work Order April 6, 2010 8:5										Page 1
Item ID: I	D206-642-541		Accept					Setup Sta		
Item Name: F	Replacement Skidtube							Sto	р	
Start Date: 0 Required Date: 1	06/04/2010 Start Qty: 1.00 16/04/2010 Req'd Qty: 1.00			Cust Item I Customer:	D:					
Reference:	/									
Approvals:	Process Plan:	Date: 10-4-0	Tooling:	Da	nte:	_]	Run Sta		
.]	QC:	Date:	SPC (Y/N):	Da	ate:			Sto	pp	
Sequence ID/ Work Center ID	Operation Description		Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr									
D3274	D									
IIN-D206-642	Rev M									
	DOCUMENT CONTROL		0.00				NIP	+ HA	-	
DC	B. #		0.00							

CHG003

Photocopy bluefile & type labels per PPP D206-642-541

Document Control

Dart Ae	rospac	e Ltd		Fig. 1						<u> </u>
W/Q:	7		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	W	ORK ORDER CHAN	GES				***
DATE	STEP	-	PR	PROCEDURE CHANGE			Date	e Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
		200	4					1.		
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		PAR #:	Fault Cate	egory:	NCR: Yes No DQA: Dat					
Resolution:		or:	Disposition	on:	QA: N/C	Closed:		Date: _		
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DATE	STEP	EP	Description of NC Section A	Initial Chief Eng	Action Description	ection B	n& j	erification Section C	Approval Chief Eng	Approval QC Inspector
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Work	Order	ID	57359
WUIK	Oruer	w	3/337



Page 2

April 6, 2010 8:56:59 AM D206-642-541 Accept Item ID: **Revision ID:** Item Name: Replacement Skidtube **Start Date:** 06/04/2010 Start Oty: 1.00 **Required Date: 16/04/2010 Req'd Qty:** 1.00 Reference: Process Plan: **Tooling:** Date: Approvals: Date: SPC (Y/N): Sequence ID/ Operation Set Up/ **Work Center ID** Description **Run Hours** 110 0.00

Date:

Date:

Draw

Rev.

Plan

Code

Cust Item ID:

Customer:

Draw

Number

Setup Start



Stop

Start

Reject

Qty

Run

Accept

Qty

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Stop

Reject	Insp.

Number Stamp

Skidtubes

Skidtubes Skidtubes

Memo

0.00

****VERIFY AND INSPECT THE MATERIAL PRIOR TO USE****

1- Bend FWD end of tube using bend prog D3274 FWD dwg D3274, cut fwd end of tube with saw table setup D3274.

2- remove fwd indexing ridge as per dwg D3274. Prepare for welding

3- weld fwd cap as per dwg D3274 and QSI004 AR Aluminum Rod Batch: 11250 7/113207 BE 10/04/12 4- grind fwd cap weld on top surface only

5- Cut AFT end of tube at 170.9" as per dwg D3274 and deburr end.

6-Drill Aft cap pilot hole using DT8025

7 -Cleco DT8025 in position and install pilot hole drill Jig DT8742A,B,C,D. Drill 3/16" pilot holes as per Dwg D3274

8 -Remove inner indexing ridge on aft end of skidtube as per Dwg D3274 scribe

9 -Open aft end cap holes to Ø0.208" as per Dwg D3274. Deburr aft end.

M1074/14

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W/O:			WC	RK ORDER CHANG					*			
DATE	STEP	PR	PROCEDURE CHANGE			Date	Qty	Approval Chief Eng / Prod Mgr	Approva QC Inspect			
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	Resolut	tion:	Disposition:			Closed: _		Date: _				
NCR:			WORK ORD	ER NON-CONFORMA	ANCE (N	CR)						
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Work Order ID 57359

April 6, 2010 8:56:59 AM

Required Date: 16/04/2010



Page 3

Item ID:

D206-642-541

Accept



Setup Start



Revision ID:

Item Name:

Replacement Skidtube

Start Date:

06/04/2010

Start Qty: 1.00

Req'd Qty: 1.00



Date:_____

Cust Item ID:

Customer:

Draw

Reference:

Approvals:

Process Plan:

Date:

Tooling:

SPC (Y/N):

Set Up/

Run Hours

Date:

Date:

Run Start



Stop

Stop

Sequence ID/ **Work Center ID**

120

HandFinish

Hand Finishing

Operation **Description**

Chemical Conversion Coat per QSI005 4.1

Memo

0.00 0.00

Number

Plan Draw Rev. Code

Accept Otv

Reject Qty

Reject Insp. Number Stamp

130

OC

Quality Control

QC3- Inspect Part Finish

Memo

Memo

0.00

0.00

M 1014/15

140

Quality Control

QC5- Inspect part completeness to step on W/O

Dart Ae	rospace Ltd	t				•		
W/O:			WC	RK ORDER CHANGE	S		•	•
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		PAR #:	Fault Cate	gory:	NCR: Yes	No DQA:	Date: _	
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NCR:			WORK ORDE	R NON-CONFORMAL	NCE (NCR)		
DATE	STEP	Description of NC		Corrective Action Section		Verification	Approval	Approva
DATE	SIEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC inspect
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Page 4

April 6, 2010 8:56:59 AM Item ID: D206-642-541 Accept Setup Start **Revision ID:** Stop Item Name: Replacement Skidtube **Start Date:** 06/04/2010 Start Otv: 1.00 **Cust Item ID: Required Date:** 16/04/2010 Req'd Oty: 1.00 Customer: Reference: Run Start Approvals: Process Plan: Date: Tooling: Date: Stop QC: Date: SPC (Y/N): Date: Sequence ID/ Operation Set Un/ Draw Plan Reject Draw Accept Reject Insp. Work Center ID Description Number **Run Hours** Rev. Code Otv Otv Number Stamp 150 0.00 Skidtubes Skidtubes 0.00 Skidtubes 1-Open Ø0.313" and 0.375" crossbolt spacer holes using DT8743 as per Dwg D3274 2-Deburr crossbolt spacer holes as per Dwg D3274 and blow out chips from inside the tube 46/4/15 (Adhere for 12 hours) 160 QC5- Inspect part completeness to step on W/O 0.00 OC 0.00 Memo Quality Control

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Dart Ae	rospace	e Ltd							,	-	
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Work Order ID 57359

Page 5

April 6, 2010 8:56:59 AM Item ID: **Revision ID:**

D206-642-541

Accept



Setup Start



Item Name:

Replacement Skidtube

Start Date: d

06/04/2010

Start Otv: 1.00

Required Date: 16/04/2010 Reg'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

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Process Plan: Date:

Tooling:

Date:

Draw

Number

Run Start

Reject

Qty



QC:

Date:

SPC (Y/N):

Set Un/

Run Hours

Date:

Plan

Code

Draw

Rev.

Stop

Number Stamp

Insp.

Reject

Sequence ID/

Work Center ID

170

Skidtubes

Skidtubes

Skidtubes

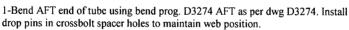
Operation

Description

Memo

0.00

0.00



2- DRILL PILOT HOLES FOR WEARPLATES USING D3274-1T2 OPEN HOLES TO .297". Deburr

3-DRILL TOE PIN HOLE .640" DIA AS PER DWG USING DT8935 FWD END OF TUBE

DEBURR INSIDE OF HOLE AS NECESSARY (DO NOT ENLARGE HOLES) REMOVE ANY FOREIGN OBJECTS INSIDE OF TUBES

4- Countersink crossbolt spacer holes as per Dwg D3274

5- prepare for welding

Accept

Otv

180

QC5- Inspect part completeness to step on W/O

Memo

Sioloy/20 A

OC

Quality Control

Dart Ae	rospace Ltd	d						1.
W/O:			WO	RK ORDER CHANGES	3			
DATE	STEP	PF	PROCEDURE CHANGE			Date Qty	Approval Chief Eng / Prod Mgr	Approva QC Inspecto
Part No):	PAR #:	Fault Categ	Jory:	NCR: Yes	No DQA:	Date: _	
	Reso	lution:	Disposition):	QA: N/C C	osed:	Date: _	
NCR:			WORK ORDE	R NON-CONFORMAN	CE (NCF	R)		
		Description of NC		Corrective Action Section	В	Verification		
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Approval Chief Eng	Approva QC Inspecto



Page 6

April 6, 2010, 8:56:59 AM D206-642-541 Item ID: Accept Setup Start **Revision ID:** Item Name: Replacement Skidtube Start Oty: 1.00 Start Date: 06/04/2010 **Cust Item ID: Required Date:** 16/04/2010 Reg'd Otv: 1.00 **Customer:** Reference: Run Start Process Plan: Approvals: Tooling: Date: Date: Stop Date: OC: SPC (Y/N): Date: Sequence ID/ Operation Set Up/ Draw Plan Reject Draw Accept Reject Insp. Work Center ID Description Number **Run Hours** Rev. Code Otv Otv Number Stamp 190 0.00 Skidtubes Skidtubes Memo 1-Insert D2649 & D3275-1 crossbolt spacers. Weld as per QSI 004 and Dwg Skidtubes ومواري والمحر D3274. Remember to back drill each hole before welding the other side. Use A/R - Aluminum Rod - M112507 3-Grind cross bolt welds flush as per Dwg D3274. 4-Counterbore 5/16" x 0.750" deep as per Dwg D3274 and deburr. 200 QC5- Inspect part completeness to step on W/O

QC

Quality Control

0.00

Memo

Dart Ae	rospace	Ltd									,
W/O:	W/O: DATE STEP			WO	RK ORDER CHAN	GES					
DATE	STEP		PR	PROCEDURE CHANGE				Date	Qty	Approval Chief Eng / Prod Mgr	Approva QC Inspecto
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DATE	STEP		Section A	Initial Chief Eng	Action Description Chief Eng		Sign & Date		ion C	Approval Chief Eng	Approva QC Inspecto
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Work Order ID 57359

April 6, 2010 8:56:59 AM



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Item ID:

D206-642-541

Accept

Setup Start



Revision ID:

Item Name:

Replacement Skidtube

Stop

Start Date:

06/04/2010

Start Qty: 1.00 **Req'd Qty:** 1.00

Cust Item ID: Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

Stop



Required Date: 16/04/2010

Date:_____

SPC (Y/N):

Date:

Sequence ID/ Work Center ID

210



QC

Quality Control

Operation **Description**

QC10- Inspect visual per QSI004- ground welds

Set Up/ **Run Hours** Draw Number

Draw Rev.

Plan Accept Qty Code

Reject Qty

Reject Insp. Number Stamp

0.00

220



Hand Finishing

Memo

RE-ALDIDINEU PAR 09-043

1 bl 10-5-6

230



Powdercoat

Powder Coating

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

M114207

7) 11 1005/06

Memo

START TIME: 10:45AM OVEN TEMPERATURE: 3 20°/-FINISH TIME: (1) 5 A ~

0.00

Dart Aerospace Ltd W/O: **WORK ORDER CHANGES Approval** DATE **STEP Approval PROCEDURE CHANGE** By Qty **Date** Chief Eng / Prod Mgr QC Inspector Part No: _____ PAR #: ____ Fault Category: _____ NCR: Yes No DQA: ___ Date: ____ Disposition: _____ QA: N/C Closed: ____ Date: ____ Resolution WORK ORDER NON-CONFORMANCE (NCR) NCR: **Corrective Action** Section B Description of NC -Verification DATE **Approval Approval STEP** Sign & Initial **Action Description** Section A QC Inspector Section C Chief Eng Chief Eng Chief Eng Date

Work Order ID 57359

April 6, 2010 8:56:59 AM

Required Date: 16/04/2010



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Item ID:

D206-642-541

Accept



Setup Start



Revision ID:

Item Name:

Replacement Skidtube

Start Date:

06/04/2010

Start Oty: 1.00

Rea'd Otv: 1.00



Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan: Date:

OC: Date: SPC (Y/N):

Tooling:

Set Up/

Date:

Run Start



Stop

Sequence ID/ Work Center ID

240



Quality Control

Operation Description

QC3- Inspect Part Finish

Memo

Run Hours

0.00

Draw Number

Draw Rev.

Date:

Plan Accept Code Otv

Reject Otv

Reject Number Stamp

Insp.

250



HandFinish Hand Finishing HandFinishing

0.00

0.00

1-Install Nut Plate as per Dwg D3274. Apply LPS-3 to Nut Plate and rivets. A/R \(\text{N/A} \(\text{LPS-3} \)

A/R□□Sikaflex-291 □ Sikaflex expire date:

2-Install inserts as per Dwg D3274, Use a drop of Sikaflex inside insert holes a

) bl 10-5-11.

260



OC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Sidesty

Memo

Inspect Nut Plate & Inserts

Dart Ae	rospace Ltd	d								ı		
W/O:			WORK ORDER CHANGES									
DATE	STEP	PR	OCEDURE CHAI	NGE		Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approv QC Inspect		
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Part No):		•	ory:								
	Resol	lution:							Date: _			
NCR:			WORK ORDE	R NON-CONFORM	MANCE	(NCR)					
DATE	STEP	Description of NC			ection B		Verification		Approval	Approv		
DATE	SIEP	Section A	Initial Chief Eng	Action Description Chief Eng)	Sign & Date	Secti		Chief Eng	QC Inspect		

Work	Order	ID	57359

April 6, 2010 8:56:59 AM



Page 9

Item ID:

D206-642-541

Accept



Setup Start

Stop



Revision ID:

Item Name: Replacement Skidtube

Start Date: 06/04/2010

Start Qty: 1.00

Required Date: 16/04/2010 Req'd Qty: 1.00



Cust Item ID: Customer:

Draw

Number

Reference:

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Process Plan: _____ Date: ____

Tooling:

Date:

Draw

Rev.

Run Start

Stop



QC: _____ Date:

SPC (Y/N):

Date:

Qty

Plan

Code

Accept Reject

Qty

Reject Insp. Number Stamp

Sequence ID/ Work Center ID

270



HandFinish

Hand Finishing

Operation Description

Set Up/ Run Hours

0.00

HAND FINISHING RESOURCE #1

Memo

0.00

1-Install wearpads & gaskets as per Dwg D3274.

-2-Install ring as per Dwg D3274

A/R□□Sikaflex-291 □ Sikaflex expire date:

3-Inspect for foreign objects as per QSI 024

4-Spray inside of tube on both-sides of web with LPS-3 LPS-3

5-Install Aft Cap and seal with Sikaflex. Clean excess adhesive. A/R \(\subseteq \text{Sikaflex.291} \)

Sikaflex expire date:

BR 10-5-11.

280



QC5- Inspect part completeness to step on W/O

Memo

Quality Control

Dart Ae	rospace Lt	:d										
W/O:			WORK ORDER CHANGES									
DATE	STEP		PROCEDURE CHANGE			Ву	Date Qty	Approval Chief Eng / Prod Mgr	Approva QC Inspect			
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Resolution		lution		Disposition	1:	QA: N/C Clo	sed:	Date: _				
NCR:				WORK ORDE	R NON-CONFORMAL	NCE (NCR)						
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Work Order ID 57359

April 6, 2010 8:56:59 AM



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Item ID:

D206-642-541

Accept

Setup Start

Stop



Revision ID: Item Name:

Replacement Skidtube

Start Date:

06/04/2010

Start Qty: 1.00

Required Date: 16/04/2010 Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

0.00

Date:

Run Start



QC: Date:_____

SPC (Y/N):

Date:

Stop

Sequence ID/ Work Center ID

290



Packaging

Packaging

Operation Description

Identify as per dwg & Stock Location:

Set Up/ **Run Hours**

Draw Number Draw Plan Rev. Code Accept Oty

Reject Reject Number Stamp

Insp.

Memo

PM 57366 0.00

300



Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

10 (05/17 A) B10-5-17

Dart Ae	rospace	e Ltd	÷						•		3
W/O:			14.	WC	RK ORDER CHANG	SES	-	•		***	
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Picklist Pri								t at 1 Amilion		Page 1
April 6, 2010 8:.	57:03 AM									
Work Order ID:	57359							-		16
Parent Item:	D206-642-541					i				
Parent Item Name	: Replacemen	t Skidtube	1 (4 811): 8	1818 HAN BELLE BITT LIBER BUILL BIBLE LIBER SEE		41	Sı	tart Date:	06/04/2010	Required Date: 16/04/2010
Comments:	IPP Rev:B□ IPP Rev:C IPP Rev:D IPP Rev:E		earplate 1515H3					Start Qty:		Required Qty: 1.00
D2600-1-190 Extrusion Round 3" 2	06	Manufactured	No .		110	Each	50.0000	1.0000		
				Warehouse	<u>Lo</u>	c Oty	Loc Code			
•				Location						
				Main Warehouse						
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D2205 1				47575		50			t	m 10/4/7
D3285-1 Cap		Manufactured	No		110	Each	164.0000	1.0000		
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				LG		164				_ , /
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D3282-041 Float Web (206L/407		Manufactured	No		150	Each	4.0000	1.0000		
, , , , ,	•			Warehouse Location	<u>Lo</u>	c Oty	Loc Code			
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___ N 10/4/15

LG

52696

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W/O:			WORK ORDER CHANGES										
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Required Date: 16/04/2010

Required Otv: 1.00

April 6, 2010 8:57:04 AM

Work Order ID: 57359

Parent Item:

D206-642-541

Parent Item Name:

Replacement Skidtube

Comments:

D2649

IPP Rev:B□05.09.23□Revised per D206-642 Rev. J□KJ/JLM

Manufactured

Manufactured

07-02-23 07-12-06

Added SS Wearplates & Gaskets JLM

No

No

No

IPP Rev:D IPP Rev:E

replace NAS1515H3L to D3672-1 DD

08-04-17

as per PAR 08-015 DD verified by:EC

190

190

250

Each

85.0000

120000

12.0000

Start Date: 06/04/2010

Start Otv: 1.00

Cross Bolt Spacer

Warehouse Location

Loc Otv

Loc Code

Main Warehouse

LG

55000

85

85 Each

12 BE 10/04/28

12 BE 10/05/04

Crossbolt Spacer

D3275-1

Warehouse

Location Main Warehouse

LG

53453

Loc Oty

Loc Code

20.0000

20 20

Each

219.0000 2.0000

CR3212-4-03

Purchased

Cherry Rivet

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

111359 112314 219

92

127

2 BR 10-5-11

April 6, 2010 8:57:04 AM

Shop Packet Print

Page 2

Dart Ae	rospace	e Ltd							,		
W/O:				WO	RK ORDER CHAI	NGES					
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Picklist Print

April 6, 2010 8:57:04 AM

Page 3

Required Date: 16/04/2010

Required Qty: 1.00

JK 10-5-U

Work Order ID: 57359

Parent Item:

D206-642-541

Parent Item Name:

Replacement Skidtube

Comments:

D3415-041 .

IPP Rev:B□05.09.23□Revised per D206-642 Rev. J□KJ/JLM

Manufactured

Purchased

IPP Rev:C 07-02-23 IPP Rev:D 07-12-06

Added SS Wearplates & Gaskets JLM replace NAS1515H3L to D3672-1 DD

IPP Rev:E

08-04-17 as per PAR 08-015 DD verified by:EC

No

250

Each

Loc Qty

75.0000 1.0000

Loc Code

Loc Code



Start Date: 06/04/2010

Start Qty: 1.00

Nut Plate

Warehouse Location

Main Warehouse

ST056

33842

250

75 75 Each

726.0000 2.0000



Cherry Rivet

CCR264SS3-3

L	ocation
_	
3.4.1	W

Warahauee

Main Warehouse ST311

111548 112314 113539 113973

92 626 250 Each

726

Loc Qty

40.0000 78.0000



ALS4-1032-130

Purchased

No

Insert

Warehouse

Loc Oty

Loc Code

Location

110511

Main Warehouse ST282

40

40

78. \$ 105-11.

Date			,
Date			
	Qty	Approval Chief Eng / Prod Mgr	Approva QC Inspect
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R)			
		Approval Chief Eng	Approva QC Inspect
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) 	No DQ	No DQA:	No DQA: Date: _ Closed: Date: _ R) Verification Approval Section C Chief Eng.

Required Date: 16/04/2010

Required Oty: 1.00

April 6, 2010 8:57:04 AM

Work Order ID: 57359

Parent Item:

D206-642-541

Parent Item Name:

Replacement Skidtube

Comments:

IPP Rev:B□05.09.23□Revised per D206-642 Rev. J□KJ/JLM

IPP Rev:C 07-02-23 IPP Rev:D 07-12-06

Added SS Wearplates & Gaskets JLM replace NAS1515H3L to D3672-1 DD

No

IPP Rev:E

08-04-17 as pe

as per PAR 08-015 DD verified by:EC

as per PAR 08-015

Manufactured

270

Each

19.0000 1.0000

Start Date: 06/04/2010

Start Qty: 1.00

Gasket

D3536-15

		Warehouse Location	L	oc Oty	Loc Code		
		Main Warehouse					
		FP 51600 56055		19 7 12			I BR 10-5-11
Manufactured	No		270	Each	7.0000	1.0000	

Gasket

D3536-23

Warehouse	<u>I</u>	.oc Qty	Loc Code	
Location				
Main Warehouse				
FP 57529		7		
53468		7		
·	270	Each	11.0000	1 0000

D3536-35

Gasket

Manufactured No

270 E

11.0000 1.0000

Warehouse Loc Oty Loc Code
Location

Main Warehouse

FP 57532 51628

11 11 1 BK10-5-11

1 BR 10-5-11

Dart Ae	rospace Ltd	4						•
W/O:			WC	RK ORDER CHANG	SES			•
DATE	STEP	PR	PROCEDURE CHANGE				Approval Chief Eng / Prod Mgr	Approva QC Inspecto
Part No):	PAR #:	Fault Cate	gory:	NCR: Yes	No DQA:	_ Date: _	
	Resol	ution:	Disposition	n:	_ QA: N/C Cld	osed:	Date: _	
NCR:			WORK ORD	R NON-CONFORM	ANCE (NCR)		
DATE	STEP	Description of NC	iption of NC Corrective Action Section B			Verification	Approval	Approva
DATE	SIEF	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspecto
								-
					ļ			
						·		
1		1	1				ľ	

Required Date: 16/04/2010

Required Otv: 1.00

April 6, 2010 8:57:04 AM

Work Order ID: 57359

D206-642-541

Parent Item Name:

Replacement Skidtube

Comments:

Parent Item:

IPP Rev:B□05.09.23□Revised per D206-642 Rev. J□KJ/JLM

IPP Rev:C IPP Rev:D

07-02-23 Added SS Wearplates & Gaskets JLM

IPP Rev:E

07-12-06 08-04-17

replace NAS1515H3L to D3672-1 DD as per PAR 08-015 DD verified by:EC

D3536-39

No Manufactured

270

Each

11.0000

1.0000

Start Date: 06/04/2010

Start Otv: 1.00

Gasket

Warehouse	<u>Lo</u>	c Oty	Loc Code	
Location				
Main Warehouse				
FP		11		
48161 51637		1		
51637		10		
	270	Each	14.0000	1.0000

D3535-15

Manufactured

No

Wearshoe

Warehou	<u>ise</u>		<u>Lo</u>	c Oty	Loc Code	
Loca	<u>ttion</u>					
Main Wa	rehouse					
FP		,		14		
	53462	/		4		
	56053	-		10		
			270	Each	9.0000	1.0000

D3535-35

Manufactured No

Wearshoe

Warehouse Location

Loc Qty Loc Code

Main Warehouse

9 9 1 Par 10-5-11

Bl 10-5-11

1 St 10-5-U

April 6, 2010 8:57:04 AM

Shop Packet Print

Page 5

Dart Ae	rospace	Ltd									i
W/O:				WO	RK ORDER CHAN	GES		***************************************	·		,
DATE	STEP		PROCEDURE CHANGE				Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approva QC Inspect
Part No):		PAR #:	Fault Categ	Jory:	NCI	R: Yes	No DC	A:	Date:	
					:						
NCR:					R NON-CONFORM						
	T		escription of NC Corrective Action			Section B Verification				A	T
DATE	STEP		Section A	Initial Chief Eng	Action Description Chief Eng		Sign Date	& Sec	tion C	Approval Chief Eng	Approva QC Inspect
											-
										1	
				·							
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Picklist Print

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Required Date: 16/04/2010

Required Oty: 1.00

Work Order ID: 57359

D206-642-541



Parent Item Name:

Replacement Skidtube

Comments:

Parent Item:

IPP Rev:B□05.09.23□Revised per D206-642 Rev. J□KJ/JLM

Manufactured

Manufactured

Manufactured

IPP Rev:C 07-02-23 IPP Rev:D 07-12-06

Added SS Wearplates & Gaskets JLM

IPP Rev:E

08-04-17

replace NAS1515H3L to D3672-1 DD as per PAR 08-015 DD verified by:EC

No

No

No

270

270

Each

9.0000

Loc Code

1.0000

Start Date: 06/04/2010

Start Qty: 1.00

D3535-39

Wearshoe

Warehouse

Main Warehouse FP

Location

51619

9 9 Each

Loc Qty

14.0000 1.0000

Loc Code

Bl 10-5-11

D3535-23

Wearshoe

Warehouse Location

Main Warehouse

FP 53467 56054 L

14 2 12 270 Each

Loc Otv

20.0000 1.0000 pl 10-5-11

D3537-3



Wearpad

Warehouse Location Loc Oty

Loc Code

Main Warehouse

35697

20 20

1 fk 10-5-11

rospace	Llu									•	
			WORK ORDER CHANGES								
STEP		PROCEDURE CHANGE			***************************************	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approva QC Inspecto	
<u> </u>		PAR #:	Fault Cate	adory.	NC	R: Vas	No DO	\ <u>.</u>	Date:		
STEP	Description of NC Section A		Initial	Section B ption	Sign &		Verification Section C	Approval Chief Eng	Approva QC Inspecto		
			Chief Eng	Chief Eng		Date					
		····									
				·							
oto 9 initi-	al oll cast										
	STEP	STEP Resolution STEP	STEP PRO	STEP PROCEDURE CHA PAR #: Fault Cate Resolution: Disposition WORK ORD STEP Description of NC Section A Initial Chief Eng	STEP PROCEDURE CHANGE	STEP PROCEDURE CHANGE PAR #: Fault Category: NC Resolution: Disposition: QA WORK ORDER NON-CONFORMANCI STEP Description of NC Section A	STEP PAR #: Fault Category: NCR: Yes Resolution: QA: N/C CI WORK ORDER NON-CONFORMANCE (NCF STEP PAR #: Fault Category: NCR: Yes Resolution: QA: N/C CI WORK ORDER NON-CONFORMANCE (NCF Corrective Action Section B Initial Chief Eng Action Description Chief Eng Date	STEP PROCEDURE CHANGE By Date PAR #: Fault Category: NCR: Yes No DQA Resolution: QA: N/C Closed: WORK ORDER NON-CONFORMANCE (NCR) STEP Description of NC	STEP PROCEDURE CHANGE By Date Qty	STEP PROCEDURE CHANGE By Date Qty Approval	

Picklist Print

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Required Date: 16/04/2010

Required Oty: 1.00

Work Order ID: 57359

Parent Item:

D206-642-541

Parent Item Name:

Replacement Skidtube

Comments:

IPP Rev:B□05.09.23□Revised per D206-642 Rev. J□KJ/JLM 07-02-23

07-12-06

Added SS Wearplates & Gaskets JLM replace NAS1515H3L to D3672-1 DD

as per PAR 08-015 DD verified by:EC

IPP Rev:E 08-04-17

Manufactured No

No

270

Each

51.0000 9.0000

Start Date: 06/04/2010

Start Qty: 1.00

Wearpad

D3537-1

Warehouse

Loc Otv

Loc Code

Location

Main Warehouse

. (1811 **- 1**811 - **1**811 - 1884 - 18

51 51

Each 0.0000 114341

80.0000

9 Bl 10-5-11 80 bl 10-5-11

AN960C10L

washer

AN960C416



washer

Purchased

Purchased

270

Each

377.0000 1.0000



Warehouse Location

Main Warehouse

ST346

100993

Loc Qty

377

377

Loc Code

IBR 10-5-11

Dart Ae	rospace	e Ltd								i
W/O:				WO	RK ORDER CHAN	GES	-			•
DATE	STEP		PR	PROCEDURE CHANGE			Date	Qty	Approval Chief Eng / Prod Mgr	Approva QC Inspector
Part No					ory:					
	R	esolutio	h:	Disposition	:	QA: N/C (Closed:		Date: _	
NCR:				WORK ORDE	R NON-CONFORM	IANCE (NC	R)			
DATE	STEP		Description of NC			ction B	B Verification		Approval A	Approval
DAIL	SIEP		Section A	Initial Chief Eng	Action Description Chief Eng	Sign Date	& Sect	ion C	Chief Eng	QC Inspecto
										-
			9							

Picklist Print

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Required Date: 16/04/2010

Required Qty: 1.00

Work Order ID: 57359

Parent Item:

D206-642-541

Parent Item Name:

Replacement Skidtube

Comments:

IPP Rev:B□05.09.23□Revised per D206-642 Rev. J□KJ/JLM

IPP Rev:C 07-02-23 IPP Rev:D

Added SS Wearplates & Gaskets JLM

IPP Rev:E

07-12-06 08-04-17 replace NAS1515H3L to D3672-1 DD as per PAR 08-015 DD verified by:EC

Manufactured

Purchased

No

270

Each

Loc Oty

1589

89

1,589.000 2.0000

Loc Code

Start Date: 06/04/2010

Start Qty: 1.00

D3672-1

Phenolic Washer

Warehouse Location

Main Warehouse

ST077 47628

51674 52505

270

500 1000 Each 1,249.000 80.0000

Loc Code

AN3C4A

BOLT

Warehouse Loc Qty Location

Main Warehouse

113226

114108

114103

1249 248 501 500

34 BR10-5-11

Dart Ae	rospac	e Ltd									
W/O:				W	ORK ORDER CHA	NGES					•
DATE	STEP		PROCEDURE CHANGE				Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approva QC Inspector
Part No	:		PAR #:	Fault Cate	gory:	NCR	: Yes	No DQ	\ :	Date:	
					n:						
NCR:			,	WORK ORD	ER NON-CONFOR	MANCE	(NCR)			
DATE	STEP	6	Description of NC		Corrective Action Section B			Verific	ation	Approval	Approva
			Section A	Initial Chief Eng	Action Description Chief Eng	on	Sign & Date	Section	on C	Chief Eng	QC Inspector
											-
									i		
NOTE: D	ı ate & initi	al all entres	3								

H:\fFORMS\Quality Assurance\approved QA\NCRWO RevE

Picklist Print

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Page 9

Required Date: 16/04/2010

Required Qty: 1.00

Work Order ID: 57359

Parent Item:

D206-642-541

IPP Rev:E

Parent Item Name:

Replacement Skidtube

Comments:

IPP Rev:B□05.09.23□Revised per D206-642 Rev. J□KJ/JLM Added SS Wearplates & Gaskets JLM

IPP Rev:C 07-02-23

IPP Rev:D 07-12-06

replace NAS1515H3L to D3672-1 DD 08-04-17 as per PAR 08-015 DD verified by:EC

AN4C5A

Purchased

No

270

Each

534.0000 1.0000

Start Date: 06/04/2010

Start Qty: 1.00

		Warehouse	<u>L</u>	oc Oty	Loc Code	
		Location				
		Main Warehouse				
		ST346		534		
•		110552		34		
		112243		500		
Manufactured	No		270	Each	35.0000	1.0000



Aft Cap

D2646

Warehouse Location	Loc Oty	Loc Code
Main Warehouse		
FP6	28	
52663	28	
Main Warehouse		
fp7	7	
52663	7	

BR10-5-11.

IBC 10-5-11

Dart Aerospace I	_td
------------------	-----

W/O:		WORK ORDER CHANGES										
DATE	STEP	 PRO	OCEDURE CHA	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector			
 		 										
Part No	•	 PAR #:	Fault Cate	gory:	NCR: Yes	No DQ	A:	_ Date: _	-			
	Re			n:								
NCR:			WORK ORDI	ER NON-CONFORM	MANCE (NC	R)	,					
DATE	STEP	Description of NC Corrective Action			ection B	Verifi	erification Approval	Approval				
	OIL.	 Section A	Initial Chief Eng	Action Description Chief Eng	n Sign Date		ion C	Chief Eng	QC Inspector			
		٠,							-			
-								:				
•												

Picklist Print

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Work Order ID: 57359

Parent Item:

D206-642-541

IPP Rev:E

Parent Item Name:

Replacement Skidtube

Comments:

IPP Rev:B□05.09.23□Revised per D206-642 Rev. J□KJ/JLM

IPP Rev:C 07-02-23

IPP Rev:D 07-12-06 08-04-17

Added SS Wearplates & Gaskets JLM

replace NAS1515H3L to D3672-1 DD as per PAR 08-015 DD verified by:EC

D3413-1

No Manufactured

270

Each

31.0000 1.0000

Start Date: 06/04/2010

Start Qty: 1.00

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

51586

53446

31

8 23 1 Bl 10-5-12.

Required Date: 16/04/2010

Required Oty: 1.00

Dart Ae	rospace L	td						4
W/O:			WC	RK ORDER CHANGE	S			4
DATE	STEP	PR	OCEDURE CHAI	CEDURE CHANGE		Date Qty	Approval Chief Eng / Prod Mgr	Approva QC Inspecto
Part No	:	PAR #:	Fault Cate	gory:	NCR: Yes	No DQA:	Date: _	
	Resc	olution:	Disposition	1:	QA: N/C Cld	osed:	Date: _	***
NCR:			WORK ORDE	R NON-CONFORMA	NCE (NCR)		
		Description of NC	Corrective Action Section		ction B Verification		A	
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Approval Chief Eng	Approva QC Inspecto



DESIG	CP	DRAWN BY	DART AEROSPACE USA, INC.
CHECK	(ED A	APPROVED 4	DRAWING NO. REV. D
	#	-#	D3274 SHEET 1 OF 4
DATE			TITLE SCALE
06.1	2.19		SKIDTUBE ASSEMBLY NTS
A·		04.03.15	NEW ISSUE
В		04.08.09	MOVE SADDLE HOLE: 42.14 WAS 42.76
С		05.03.16	ADD -043; NEW INSERTS
D		06.12.19	NEW INSERTS, SS WEARSHOE + GASKET

Qty -041	Qty -043	Part Number	Description	
Х		D3274-041	SKIDTUBE ASSEMBLY	
	Х	D3274-043	SKIDTUBE ASSEMBLY	
1	1	D2600-1-240	EXTRUSION	
1	1	D2646	AFT CAP	
12	12	D2649	CROSS BOLT SPACER	
12	37	D3275-1	CROSS BOLT SPACER	SHOP COPY
1	1	D3282-041	FLOAT WEB	RETURN TO
1	1	D3285-1	CAP	
1	1	D3413-1	RING	ENGINEERING
1	1	D3415-041	NUT PLATE	UN CONTROLLED C
1	1	D3535-15	WEARSHOE	SUBJECT TO AMENDA
1	1	D3535-23	WEARSHOE	WITHOUT NOTICE
1	1	D3535-35	WEARSHOE	WORK ORDER
1	1	D3535-39	WEARSHOE	
1	1	D3536-15	GASKET	<u> か. 3733</u>
1	1	D3536-23	GASKET	BS10-A
1	1	D3536-35	GASKET	
1	1	D3536-39	GASKET	
9	9	D3537-1	WEARPAD	
1	1	D3537-3	WEARPAD	
78	78	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, AELS-1032-130	<u>)</u>
80	80	AN3C4A	BOLT	
1	1	AN4C5A	BOLT	
1	1	AN960C416	WASHER	
80	80	AN960C10L	WASHER	
2	2	CCR264SS3-3	RIVET	
2	2	CR3212-4-03	RIVET	
2	2	NAS1515H3L	WASHER	

GENERAL NOTES:

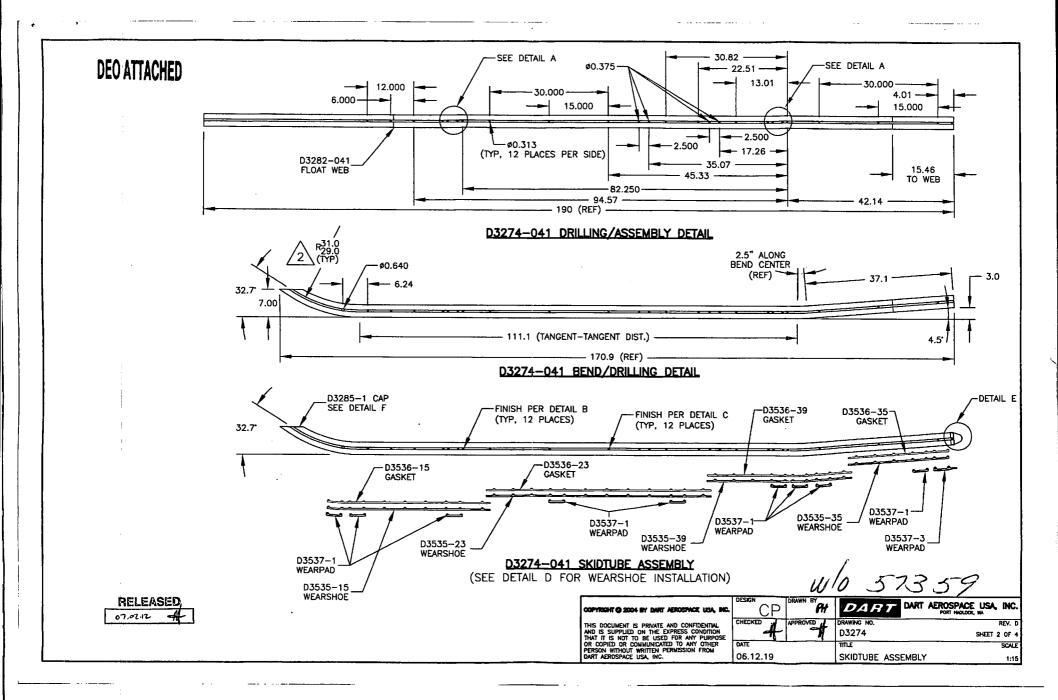
- 1. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2. DAMAGE TOLERANCE ON FWD BEND:

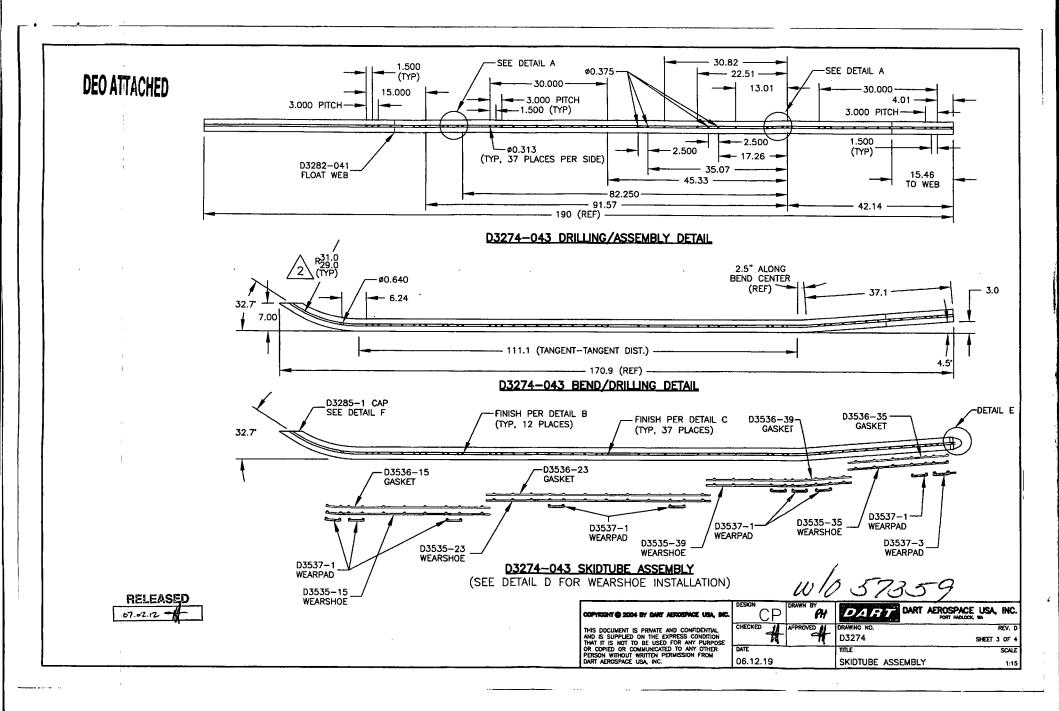
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.

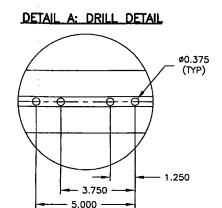
- 3. ALL HOLES DRILLED ON CENTERLINES.
- 4. BOND D3282-041 FLOAT WEB INTO D3274-1/-3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
- 5. WELDING TO BE DONE PER DART QSI 004.
- 6. FINISH: ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1 POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
- 7. DRILL Ø0.297 HOLES FOR ALS7-1032-130 INSERTS USING DT3274-1T2 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX -241/-291.
- 8. SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.

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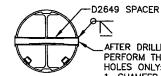
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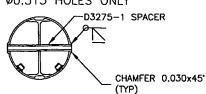




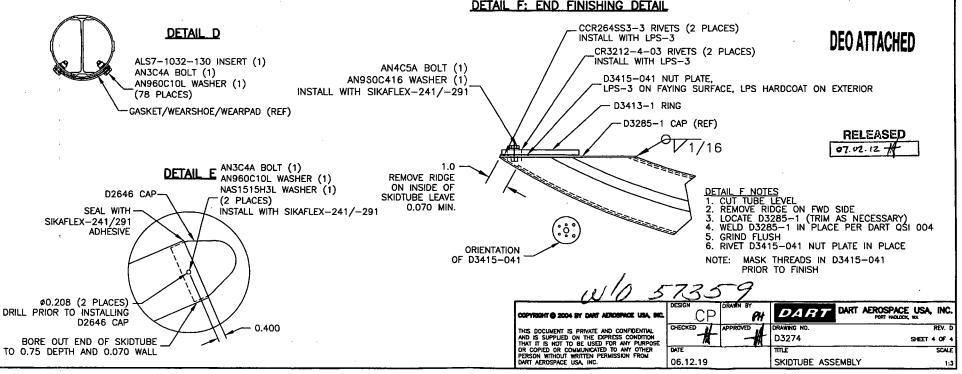
AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:

- 1. CHAMFER HOLE 0.030x45°
- 2. INSERT D2649 SPACER
- 3. WELD INTO PLACE AND GRIND FLUSH
- 4. C'BORE TO Ø0.313x0.75 DEEP

DETAIL_C FOR Ø0.313 HOLES ONLY



DETAIL F: END FINISHING DETAIL



DRAWING	NO.	TITLE	, REV. D	DART AEROSPACE U	SA, INC D.E.O. NO.	SHEET NO.	SCALE
D3274		SKIDTUBE ASSEMBLY	<u> </u>	ENGINEERING ORI	DER D3274-D-1	SHEET 1 OF 1	NTS
DRAWN	· A	CHECKED	J.	MFG. APPR.	APPROVED M	, DE APPR.	
DATE	09.06.	17 DATE O	1.06-23	DATE 59/06/23	DATE 09/07	ZB DATE 09.06.23	

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF SKIDTUBE.

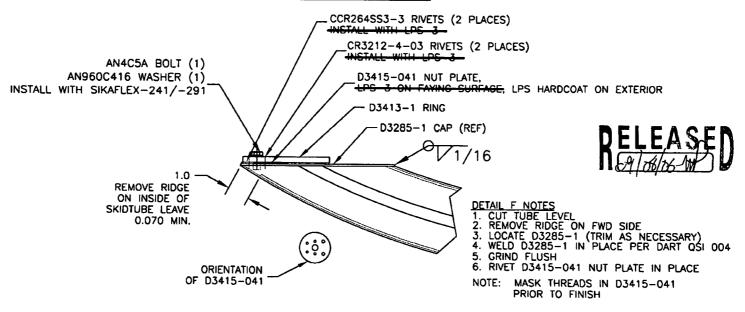
AMEND NOTE 8: "SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES 'LPS 3' AFTER FINISH AND INSTALLATION OF INSERTS.

COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES 'LPS PROCYON' AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER."

AMEND DETAIL F AS SHOWN:

wl057359

DETAIL F: END FINISHING DETAIL



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NO230

AWS D17.1.2001 QUALIFICATION TEST RECORD

Name: Barclay Ellight	
Job number: 57356	-
Part number: Dack-1642 - 541	_
Description: Noal tube	
Welding Process: Tig[Mig[]	
Base materiel: Aluminium	
Current: AC[DC[]	

TEST REQUIREMENTS AND RESULTS

Visual: Penetration:	pass['] fail[] pass['] fail[]
<u>UNACCEPTABLE</u>	
Cracks: Undercut: Pin holes: Overlap (cold lap) Porosity (surface): Coloration:	pass[v] fail[] pass[v] fail[] pass[v] fail[] pass[v] fail[] pass[v] fail[]
Qualifier / at //	Date of Test Coupon 10.05.05
Welder Barelay Ellist	Date of Test Coupon 10-05-05

The above named individual is qualified in accordance with AWS D17.1.2001 to weld